SONY®

STEREO COMPONENT SYSTEM

LBT-V50W

OPERATING INSTRUCTIONS   Page 4

Before operating the unit, please read this manual thoroughly and retain
it for future reference.

MODE D'EMPLOI   Page 22

Avant la mise en service de l'appareil, lire entièrement ce mode
d'emploi et le conserver pour toute référence ultérieure.

MANUAL DE INSTRUCCIONES   Página 40

Antes de utilizar el aparato, lea este manual detenidamente, y
consérvelo para futuras referencias.

As you read, fold back the manual cover to refer to information on operation.

Au cours de la lecture, déplier la couverture de ce mode d'emploi pour se référer aux instructions sur le fonctionnement.

Al leer, desdoble la portada del manual, y refiérase a la información sobre la operación.

TA-V50

SONY

POWER

AUX
disc

VIDEO | TAPE | CD | TUNER | PHONO

ST-V50L/V50S

SONY

TC-V50W

SONY

A   B
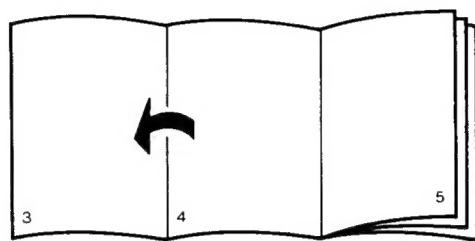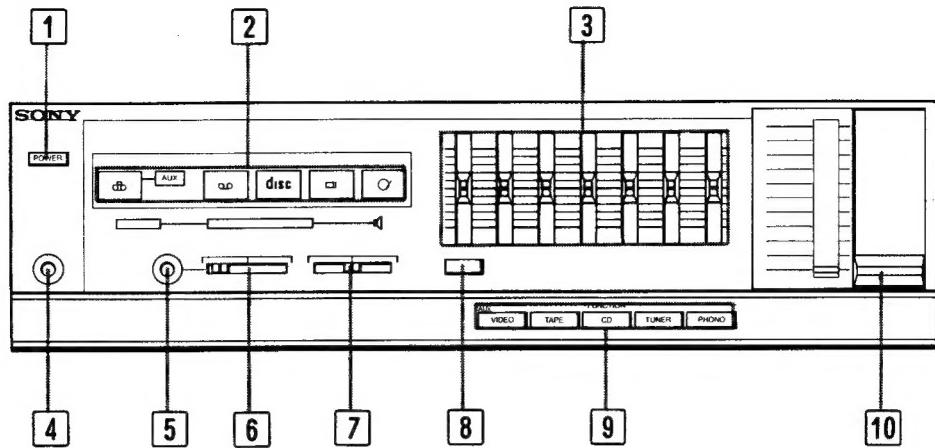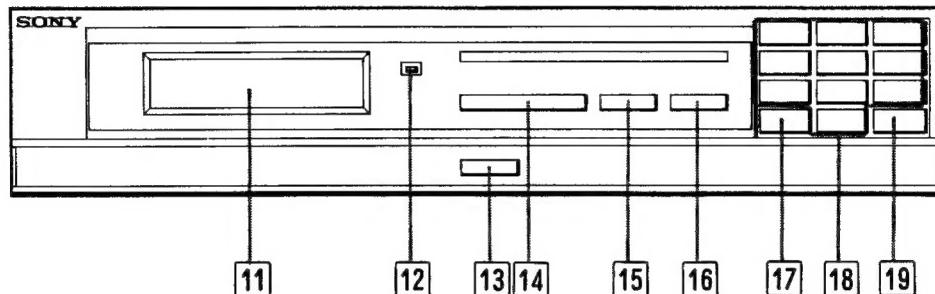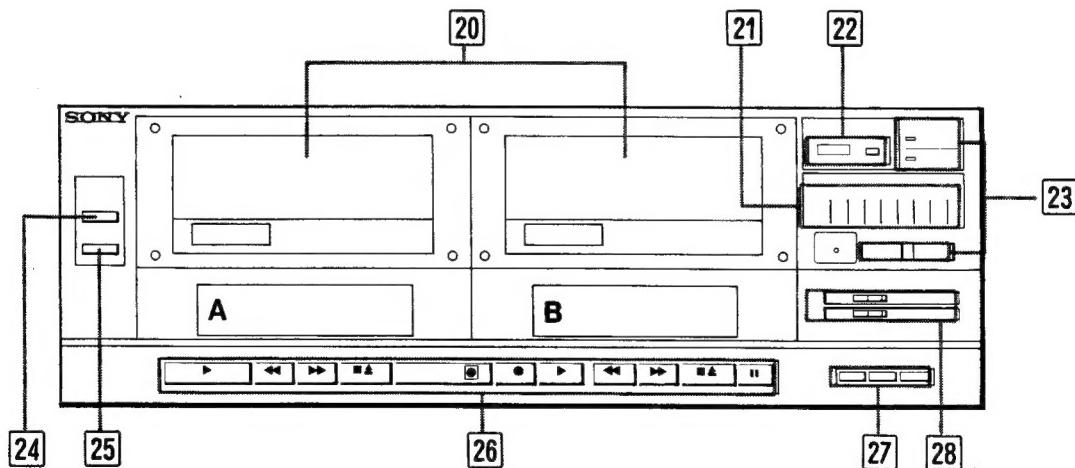
Each number is keyed to the descriptive text in "FUNCTION OF CONTROLS".

Chaque numéro trouve son correspondant dans le texte explicatif, dans le chapitre "FONCTION DES COMMANDES".

Cada número corresponde al del texto descriptivo en "FUNCIÓN DE LOS CONTROLES".

3

This instruction manual covers the LBT-V50W Type 1 and 2 models.
Types vary according to the country where the stereo system is available. The main differences are as follows:

	Type 1	Type 2
Country	European countries	Other countries
Operating voltage	220 V ac (240 V ac adjustable by authorized Sony personnel)	120, 220 or 240 V ac adjustable
Tuner band	FM, MW, LW (ST-V50L)	FM, MW, SW1, SW2 (ST-V50S)

WARNING

To prevent fire or shock hazard, do not expose the unit to rain or moisture.

To avoid electrical shock, do not open the cabinet. Refer servicing to qualified personnel only.

TABLE OF CONTENTS

PRECAUTIONS

• Before operating the stereo system, be sure that the operating voltage of your system is identical with that of your local power supply.
For Type 2 model, adjust the operating voltage, if necessary. See "Operating voltage" below.
• Unplug the stereo system from the wall outlet if it is not to be used for an extended period of time. To disconnect the cord, pull it out by grasping the plug. Never pull the plug out by the cord.
• Do not place anything on top of the amplifier. The ventilation holes must be unobstructed for the proper operation of the unit and to prolong the life of its components.
• Avoid installing or leaving the unit in a location:
    — near heat sources such as radiators, airducts or heaters
    — subject to direct sunlight
    — exposed to rain or moisture
    — where it is liable to come into contact with dust or dirt
    — that is unventilated, such as a bookcase
• Should any liquid or solid object fall into the component, unplug the stereo system and have the component checked by qualified personnel before operating it any further.

OPERATING VOLTAGE

Before connecting the unit to the power source, check that the operating voltage of your unit is the same as the local power line voltage.
The European model (type 1) operates on 220 V ac (or 240 V ac adjustable by authorized Sony personnel).
The model for other countries (type 2) operates on either 120, 220 or 240 V ac. The voltage selector is located on the rear. If the selector must be reset, **disconnect the ac power cord** and slide the selector to the appropriate voltage.
For customer of the type 2 model supplied with the plug adaptor. If necessary, use the plug adaptor to connect the turntable to an ac outlet in the house. However, when making power connections among the Sony components, this adaptor is not needed.

FUNCTION OF CONTROLS

Each number in the text is keyed to that of the illustration on page 3.

TA-V50 Amplifier

1 POWER switch
Press the switch (⊏ ON) to turn on the power of the stereo system. To turn it off, press the switch again (⊐ OFF).

2 FUNCTION indicators
The indicator lights to show the input source in use.

3 GRAPHIC EQUALIZER controls
To equalize the listening or recording sound, slide each control upwards to increase the level of the frequency band, and downwards to decrease the level.
100 Hz : Use to boost or cut the bass.
250 Hz : Use to adjust the middle and low frequency range.
500 Hz : Use to adjust the middle frequency range.
1 kHz : Use to provide more presence of vocals.
3 kHz : Use to adjust the brightness of sound.
6 kHz : Use to adjust the middle and high frequency range.
14 kHz : This control effects general treble. Slide downwards to reduce high frequency noise, such as tape hiss.
To record or listen to the sound with the original tone quality, set all the controls at their center positions.

4 HEADPHONES jack (stereo phone jack)

5 MIC (microphone) jack (phone jack)
Connect a microphone for microphone mixing.

6 MIXING control
Adjusts the balance between the volume of the microphone and the program source. Slide the control towards MIC to increase microphone volume, and towards SOURCE to increase source volume.
When not in use for microphone mixing, slide this control fully to SOURCE.

7 BALANCE control
Adjusts the balance of the left and right channel output levels.

8 GRAPHIC EQUALIZER switch
Depress this switch (⊏ ON) to activate the graphic equalizer controls. Press it again (⊐ OFF) to obtain the original tone quality.

9 FUNCTION select buttons
Press the desired program source button.
VIDEO/AUX: For video programs or another source connected to VIDEO inputs.
TAPE: For the tape programs.
CD: For the programs connected to CD inputs.
TUNER: For radio programs.
PHONO: For disc programs connected to PHONO inputs.

10 VOLUME control

ST-V50L/V50S Tuner

11 Band/frequency display
Displays the frequency received, preset station number, TUNED indication and MEMORY indication.

12 STEREO indicator
Lights when an FM stereo program of sufficient signal strength is tuned in.

13 FM TUNING MODE button (ST-V50L only)
Select a tuning system-MANUAL or AUTO.
The selected tuning system will be indicated in the band/frequency display.

14 TUNING button
Press the "+" side of the button to tune in a higher frequency, and the "–" side to tune in a lower frequency.
To change the frequency continuously, keep the button pressed.

15 BAND select button
Press to select the desired band. The band indication appears in the display. With each press, the band changes as follows.
ST-V50L: FM → MW → LW ⌐
ST-V50S: FM → SW2 → SW1 → MW⌐

16 MEMORY SCAN button
To check the preset stations, press this button and press the TUNING button.

17 MEMORY button
To memorize a tuned station to a preset number, press this button, press the PRESET button and press the ENTER button.

18 PRESET buttons
To call up a memorized station, press the appropriate button and press the ENTER button.

19 ENTER button
To memorize a tuned station to a preset number or to call up a memorized station, press this button.

TC-V50W Tape deck

20 Cassette holders

21 PEAK LEVEL METERs
These meters show the peak input level of each channel during recording, and recorded levels during playback. The leftmost LED of each meter lights when the power is turned on.

22 TAPE COUNTER and reset button (deck B)
The tape counter provides a numerical reference point. To reset to zero, press the reset button.

23 Dubbing speed buttons and indicators
HIGH SPEED: Press for high speed dubbing.
NORMAL SPEED: Press for normal speed dubbing.

24 DOLBY NR* button
To record with the Dolby NR (Noise Reduction) process, depress this button (≟ ON). To record without the Dolby NR process, press to release (◻ OFF).
When playing back, set this button to the same position used in recording.

* "Dolby" and the double-D symbol are trade marks of the Dolby Laboratories Licensing Corporation. Noise reduction system manufactured under license from Dolby Laboratories Licensing Corporation.

25 DOLBY NR B/C button
When the Dolby NR process is used, select the type by this button. For the C-type, press this button.

26 Tape operation buttons
■ ▲ (stop/eject) button
◄◄ (fastreverse) button
► (forward) button
►► (fast forward) button
● REC (record) button (deck B)
○ (record muting) button (deck B)
II PAUSE button (deck B)
Press to stop the tape momentarily during recording or playback. To disengage pause mode, press it again.

27 TAPE SELECT buttons (deck B)
Press one of these buttons to select the type of cassette to be used.
NORMAL: For normal tapes.
CrO2: For CrO2 tapes.
METAL: For metal tapes.

28 REC LEVEL (recording level) controls
Adjust the recording level by observing the PEAK LEVEL METERs.

To change the MW tuning interval (Type 2 model only)
The MW tuning interval is preset at the factory to 9 kHz to match the frequency allocation system of your country. To change the interval, proceed as follows:
1 Depress the POWER switch of the amplifier.
2 Tune in any MW station.
3 Press the POWER switch to turn the power off and wait for a few seconds.
4 While pressing the "+"side of TUNING button, press the POWER switch to turn the power on.
The MW tuning interval has been set to 10 kHz. To reset the interval to 9 kHz, follow the same procedure.

Note: When the interval is changed, all stations memorized to the PRESET buttons will be erased, After changing the interval, be sure to memorize the stations again.

RADIO BROADCAST RECEPTION

MANUAL TUNING
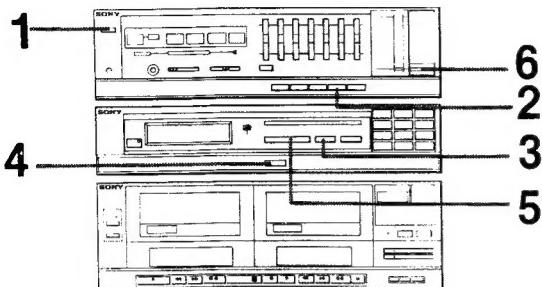
1 Depress the POWER switch.

2 Press the TUNER button.

3 Press the BAND select button so that the desired band indication appears in the band/frequency display.

4 (For type 1 model) For FM reception, press the FM TUNING MODE button so that the MANUAL indication appears.

5 Tune in the desired station with the TUNING button.

6 Adjust the volume with the VOLUME control.

- The TUNED indication appears in the band/frequency display when a station is tuned in.
- The STEREO indicator lights when an FM stereo program of sufficient signal strength is received.

Antenna adjustment
**FM:** Fully extend the supplied ribbon antenna and position it for optimum reception.
MW/LW/SW: Position the supplied layout-free AM antenna for optimum reception.

AUTOMATIC TUNING FOR FM
(for type 1 model only)

1 Depress the POWER switch.
2 Press the TUNER button.
3 Press the BAND select button so that the FM band indication appears in the band/frequency display.
4 Press the FM TUNING MODE button so that the AUTO indication appears.
5 Press the TUNING button. Automatic frequency scanning will stop when a signal is received. If the signal received is not the desired one, press the TUNING button again.
6 Adjust the volume with the VOLUME control.

MEMORY PRESET TUNING

You can memorize an FM, an MW or an LW (or an SW1 and an SW2) station to each preset number (1 – 20) in any desired sequence. A total of 20 stations (ST-V50L) or 15 stations (ST-V50S) can be memorized.
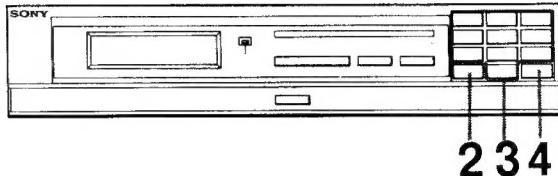
To memorize station frequencies

1 Tune in the desired station.

2 Press the MEMORY button.

3 While the MEMORY indication is displayed in the band/frequency display, press one of the PRESET buttons. For the station with the number of two digits, press the PRESET buttons successively.

Ex.) To preset a station to "13".
Press [1] and then [3].

The corresponding button number appears in the band/frequency display.

4 Press the ENTER button while the MEMORY and the PRESET button number pressed are displayed. The frequency is then memorized.

Repeat this procedure to each preset number.

Notes
- The MEMORY indication will go off automatically after a few seconds. If the MEMORY indication has gone off, press the MEMORY button again or any of the PRESET number buttons.
- The previous memory will be erased when a new frequency is memorized to the same button. An erasure cannot be made without a new input.


To receive a memorized station
1 Press the desired PRESET button.
2 Press the ENTER button while the button number pressed is displayed.

MEMORY SCANNING

2   1,3
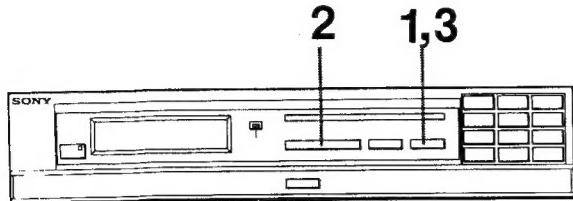
1 Press the MEMORY SCAN button.

2 Press the TUNING button while the PRESET indicator
blinks (for several seconds).
Preset stations with larger numbers can be called in
succession for receiving broadcasting by pressing the (+)
side of the button and those with smaller numbers by
pressing the (−) side.

3 Press the MEMORY SCAN button as soon as your station
is received.

* This memory scan will skip those numbers which are not used in presetting
and also skip those stations which have very weak signal.

1   2   7

5

6   3   (6) (3)   4
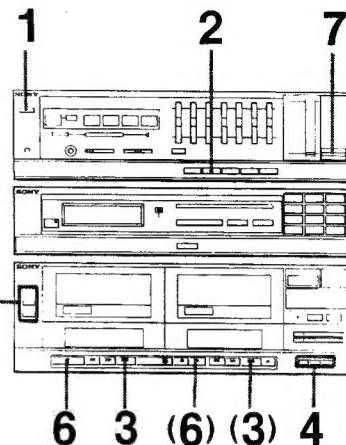
1 Press the POWER switch.

2 Press the TAPE button.

3 Press the ■ ▲ button and insert a recorded cassette. See
"Cassette insertion".

4 For deck B, press one of the TAPE SELECT buttons to
select the type of cassette tape to be used.

5 Press the DOLBY NR button and the DOLBY B/C button to
choose the same type as was used when the cassette was
recorded.

6 Press the ▶ button.

7 Adjust the volume with the VOLUME control.

To stop playback, press the ■ ▲ button.

Notes
• When the ▶ buttons of both decks are pressed, the
sound of deck B is heard.
• Be sure to release the ▶ or ● button before turning the
power off.
Otherwise, the pinch roller will remain pressed against
the capstain, and the tape or the pinch roller will be
damaged.

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1 Take up any slack in the tape to prevent it from becoming tangled around the capstan.
2 Press the ■ ▲ button and insert the cassette.
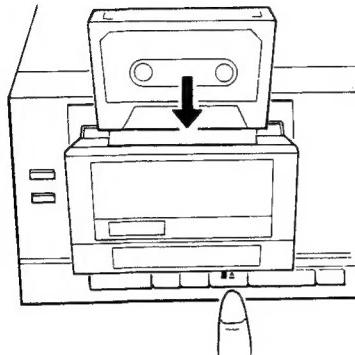
Press the ▶ button on deck B while deck A is playing back.

When the tape on deck A reaches its end, playback will automatically begin on deck B.
When the tape on deck B reaches its end, the unit automatically shuts off.

Note
For relay play, be sure to depress the ▶ button of deck B only when deck B is in the stop mode. When deck B is in the fast forward or rewind mode and then its playback button is pressed, deck B playback may begin before deck A playback ends.

During playback, use the Automatic Music Sensor(AMS) to locate the beginning of the selection being played or the following selection.

To play the next selection, press the ▶▶ button.

To play the selection being played from the begining, press the ◀◀ button.

Notes on the blank spaces
• Since AMS works by seraching out the blank spaces on a tape, it may not operate if there is noise in the space between selections, or if the space is less than 4 seconds long. The record muting facility of this cassette deck can make a blank space.
• If the recorded music includes a long pause, or if it continues for a time at sufficiently low volume, as may happen for instance with classical music, the AMS will treat it as a blank.

In playback, the automatic tape select system automatically adjusts the optimum equalization setting for TYPE I (normal), TYPE II (CrO2) and TYPE IV (metal) cassettes by detecting the slots in most TYPE II and TYPE IV cassettes.

9

TAPE RECORDING (deck B)
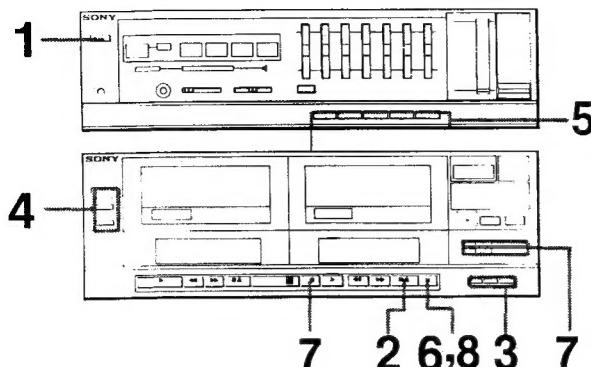
1 Press the POWER switch.

2 Press the ■ ▲ button and insert a cassette.

3 Press one of the TAPE SELECT buttons to select the type of cassette tape to be used.

4 Press the DOLBY NR button and the DOLBY B/C button to choose the type used for recording.

5 Press the appropriate function button and play the program source.

6 Press the II button.

7 Press the ● button and adjust the recording level with the REC LEVEL controls.

8 Press the II button at the moment you wish to start recording.

Adjust the recording level as high as possible while still avoiding distortion.
Slide the REC LEVEL controls towards "10" so that the left-most red LEDs on the PEAK LEVEL METERs sometimes light at the highest level parts during recording. When the red LEDs light continuously, the level is too high.
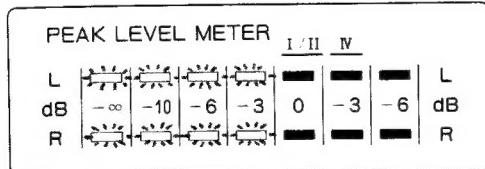
Consider the program source to be recorded as well as the types of the cassette to be used.

RECORD MUTING

To eliminate unwanted program material such as broadcasting commercials, press the O button during recording.
Keep the O button pressed for as long as you want the blank segment on the tape to be.

TO PROTECT ACCIDENTAL ERASURE

Remove the tab as illustrated so that the record mode does not function when the ● REC button is pressed. To record on a cassette once tabs have been removed, simply cover the slot with plastic tape.

To protect side A recording

Plastic tape

Do not stick any material on the cassette except for tape on the circled portions.
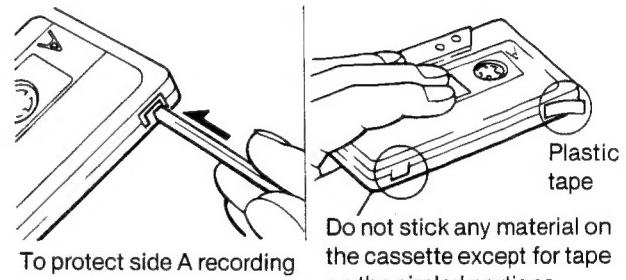
Be careful not to cover the detector slots of the TYPE II (CrO2 tape) and TYPE IV (metal tape) cassettes.

CrO2 tape detector slots   Metal tape detector slots
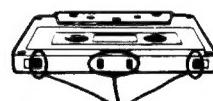
Cassette care
• Do not stick thick paper or tape onto the cassette, as this may affect proper cassette alignment and prevent proper tape contact with the head.
• Keep cassettes away from magnetic equipment such as speakers, amplifiers, etc., as erasure or distortion on your recorded tape could occur.
• Do not expose a cassette to direct sunlight, extremely cold temperatures or moisture.

TAPE DUBBING (from deck A to deck B)

AUTO DUBBING

The tape in deck B is dubbed at the same condition as tape in deck A even if the DOLBY NR button is set to any postiton.
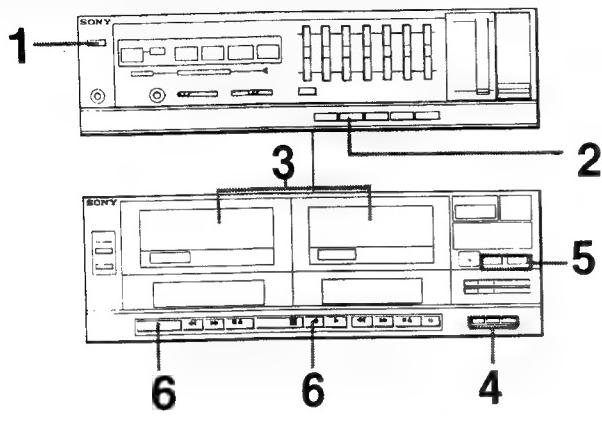
The sound played back on deck A can be recorded on deck B.

1 Press the POWER switch.

2 Press the TAPE button.

3 Insert a cassette for playback in deck A and a cassette for recording in deck.B.

4 For deck B, press one of the TAPE SELECT buttons to select the type of cassette tape to be used.

5 Select the dubbing speed.
   NORMAL DUBBING: for normal dubbing
   HIGH SPEED: for high-speed dubbing

6 Press the ● button on deck B. Then press the ▶ button on deck A.
   Dubbing begins.

To stop dubbing, press the ■ ▲ button on both decks and press the depressed DUBBING SPEED button.

When monitoring the tape sound through the headphones during dubbing, the Dolby NR system can be used and it has no effect for dubbing.

Notes
* If both the DUBBING SPEED buttons are depressed, the tape is dubbed at normal speed.
* During high-speed dubbing, the sound is sometimes deteriorated by a television set. When this happens, move the television set away from the unit.

MANUAL DUBBING

The sound of deck A can be recorded onto deck B with the desired tone quality by adjusting the graphic equalizer controls.
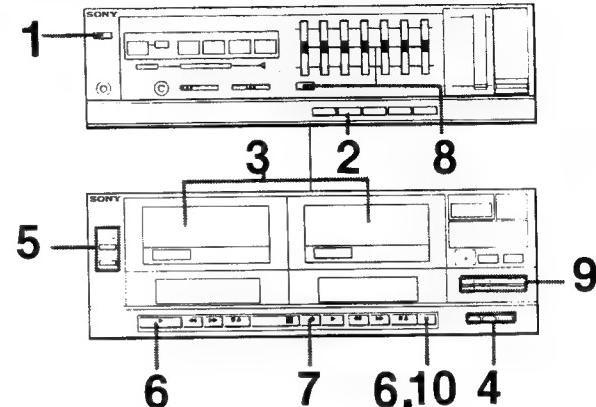
1 Press the POWER switch.

2 Press the TAPE button.

3 Insert a recorded cassette into deck A and the cassette to be dubbed into deck B.

4 For deck B, press one of the TAPE SELECT buttons to select the type of cassette tape to be used.

5 Press the DOLBY NR button and the DOLBY B/C button to choose the type used for recording.

6 Play back the cassette of deck A.

7 Press the ❙❙ button and then press the ● button.

8 Press the GRAPHIC EQUALIZER switch and adjust the tone with the graphic equalizer controls.

9 Adjust the recording level with the REC LEVEL controls.

10 Press the ❙❙ button of deck B. Dubbing begins.


Note
This deck has only one Dolby NR system for both decks A and B. In manual dubbing, the system is engaged in deck B only and not in deck A. Therefore, use a tape recorded without Dolby NR system for deck A.


TIMER-ACTIVATED RECORDING AND PLAYBACK

By connecting a commercially available timer, it is possible to record or play back automatically at a desired time.
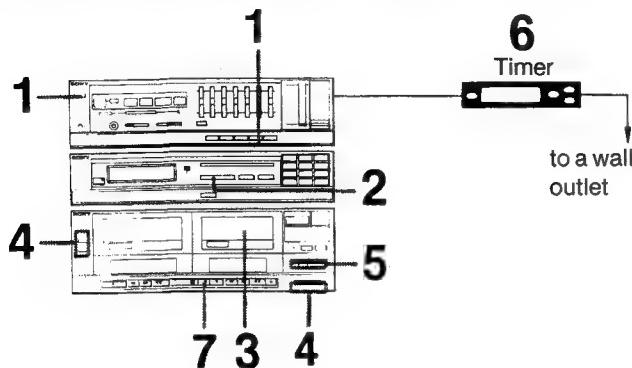
Before operation, connect the equipment to the timer.

1 Turn on the amplifier and press the TUNER button.

2 Tune in the station which will broadcast the desired program.

3 Insert a cassette.

4 Select the tape type and the Dolby NR system.

5 Adjust the recording level.

6 Set the timer to the desired time. Power to the connected equipment will be cut off.

7 Press the ● button of the tape deck.
The unit is ready to begin recording at the time set on the timer.
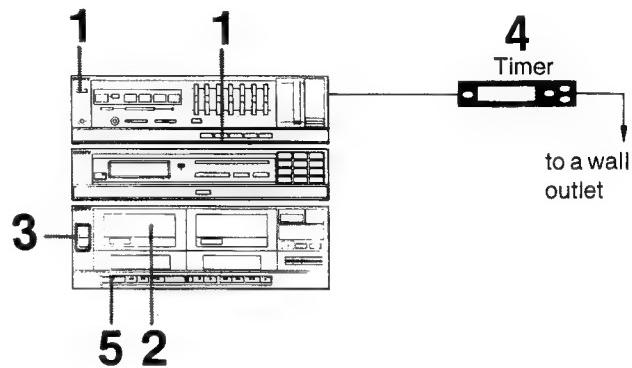
**1** Turn on the amplifier and press the TAPE button.

2 Insert a recorded cassette into the deck A.

3 Select the Dolby NR system.

4 Set the timer to the desired time.

5 Press the ► button of the tape deck.
The unit is ready to start playback at the time set on the timer.

Note
Be sure to set the timer so that it is switched off after the tape reaches its end.

MICROPHONE MIXING

2

1 5   3   4
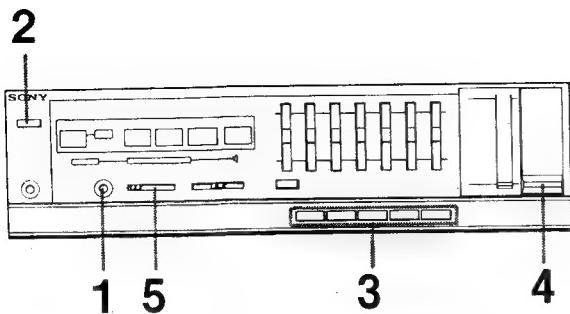
1 Connect a microphone to the MIC jack.

2 Press the POWER switch.

3 Press the desired program source button and play the sound source to be mixed with the microphone sound.

4 Adjust the overall sound level with the VOLUME control.

5 Adjust the MIXING control to get the good mixing balance.

Note
If the microphone is placed too near speakers, a howling effect caused by acoustic feedback may occur. When this happens, change the direction of the microphone or decrease the volume until the howling stops.

RECORDING THE MIXED SOUND

To record the sound mixed with a record, compact disc or radio broadcasting
Insert a cassette into deck B and start recording.

To record the sound mixed with a taped program
Play back a tape on deck A. Insert a cassette for recording into deck B and start recording.

To record only the sound from the microphone
Press the CD button when nothing is connected to the CD inputs, or the VIDEO button when nothing is connected to the VIDEO audio inputs. Insert a cassette into deck B and start recording.

Note
When you have finished mixing, be sure to disconnect the microphone from the MIC jack and slide the MIXING control fully towards SOURCE.

VIDEO TAPE PLAYBACK

1   2   4

3
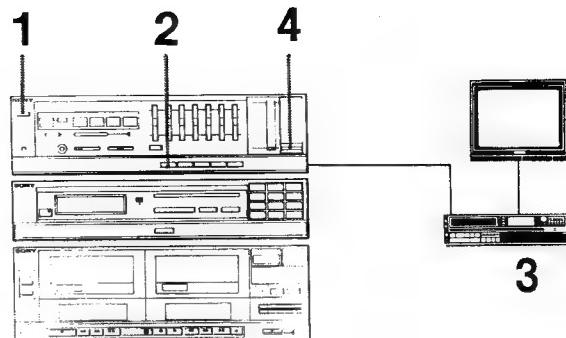
1 Press the POWER switch.

2 Press the VIDEO button.

3 Turn on the VTR and color monitor, and start playback on the VTR.

4 Adjust the volume with the VOLUME control.

To listen to an audio program source while viewing VTR playback
· Play the program source you want by operating the appropriate component.

RECORD OR CD PLAYING

1   4

2 (2)
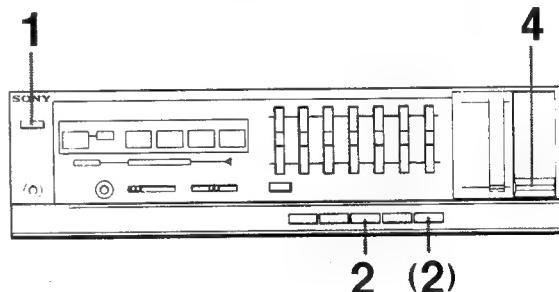
For connection, see "Connection diagrams" on page 15.

1 Press the POWER switch.

2 Press the CD for CD playing or PHONO for record playing.

3 Play a program source.

4 Adjust the volume with the VOLUME control.

For detail on the record player or CD player operation, refer to respective instruction manual.

CONNECTIONS

• The power cord should be connected last of all, first making sure that the POWER switch is turned off.
• The cable connectors should be fully inserted into the jacks. A loose connection may cause hum and noise.
• When connecting program sources, note that the red jacks of the amplifier are for right-channel connections and the white jacks for left-channel connections.
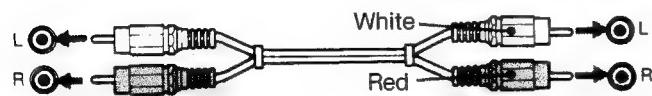
Supplied flat cord connection
To connect, depress the middle of the connector until it clicks into the male connector.
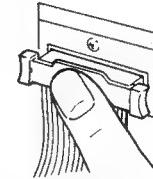
To disconnect, pull the connector out. Never pull the cord itself.
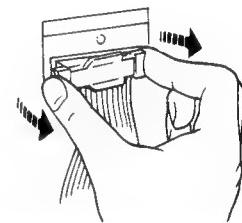
CONNECTION DIAGRAMS

Basic connection

FM ribbon antenna (supplied)

Layout-free AM antemma (supplied)

TA-V50

to a wall outlet

ST-V50L/V50S

TC-V50W

Supplied flat cord

14

System up connection

PS-LX50 Turntable system

to an ac outlet

TA-V50

SPEAKER

AC OUTLET

PHONO   CD   VIDEO

SYSTEM CONTROL   TAPE   SYSTEM CONTROL   TAPE

to a wall outlet

ST-V50L/V50S

ANTENNA

SYSTEM CONTROL   SYSTEM CONTROL

CD player

AUDIO LINE OUT

To an ac outlet

VTR

AUDIO LINE OUT

to an ac outlet

15
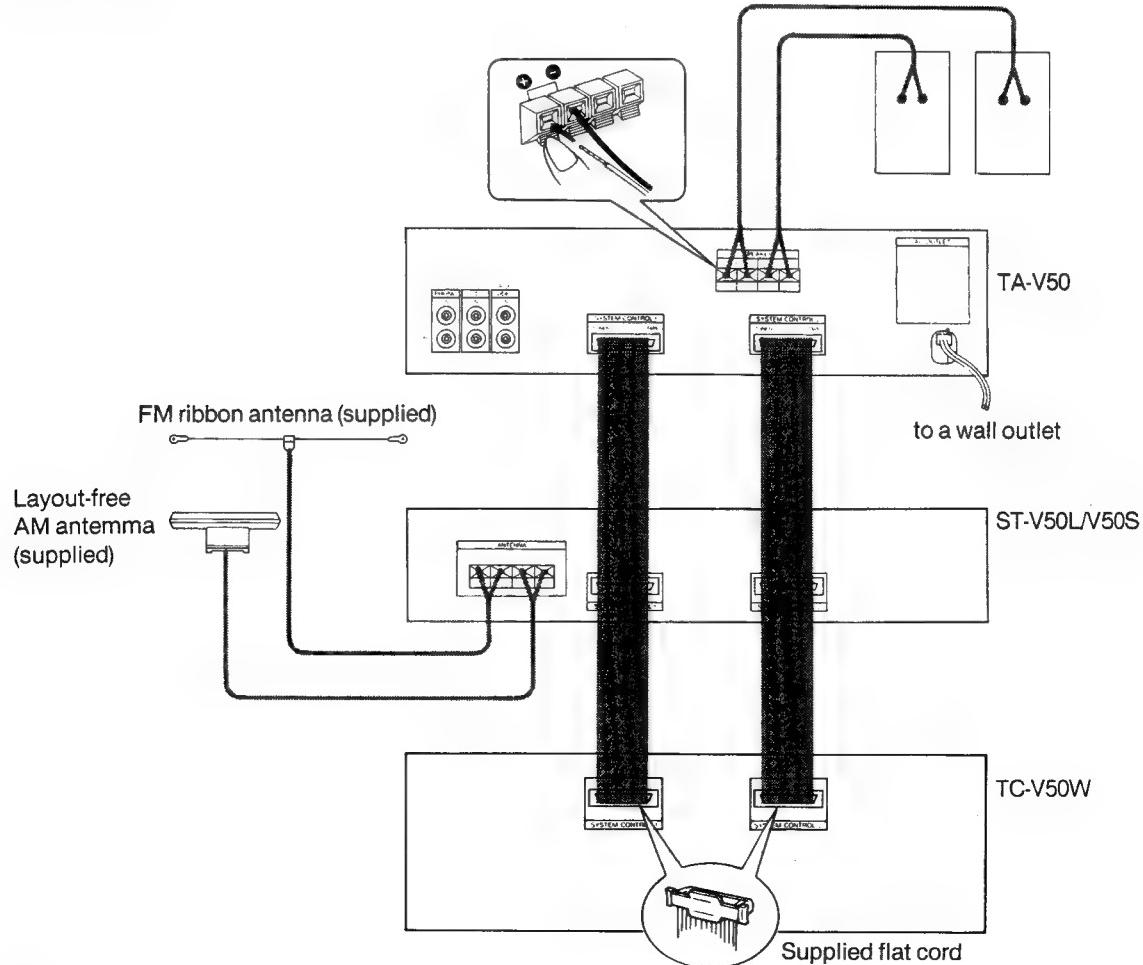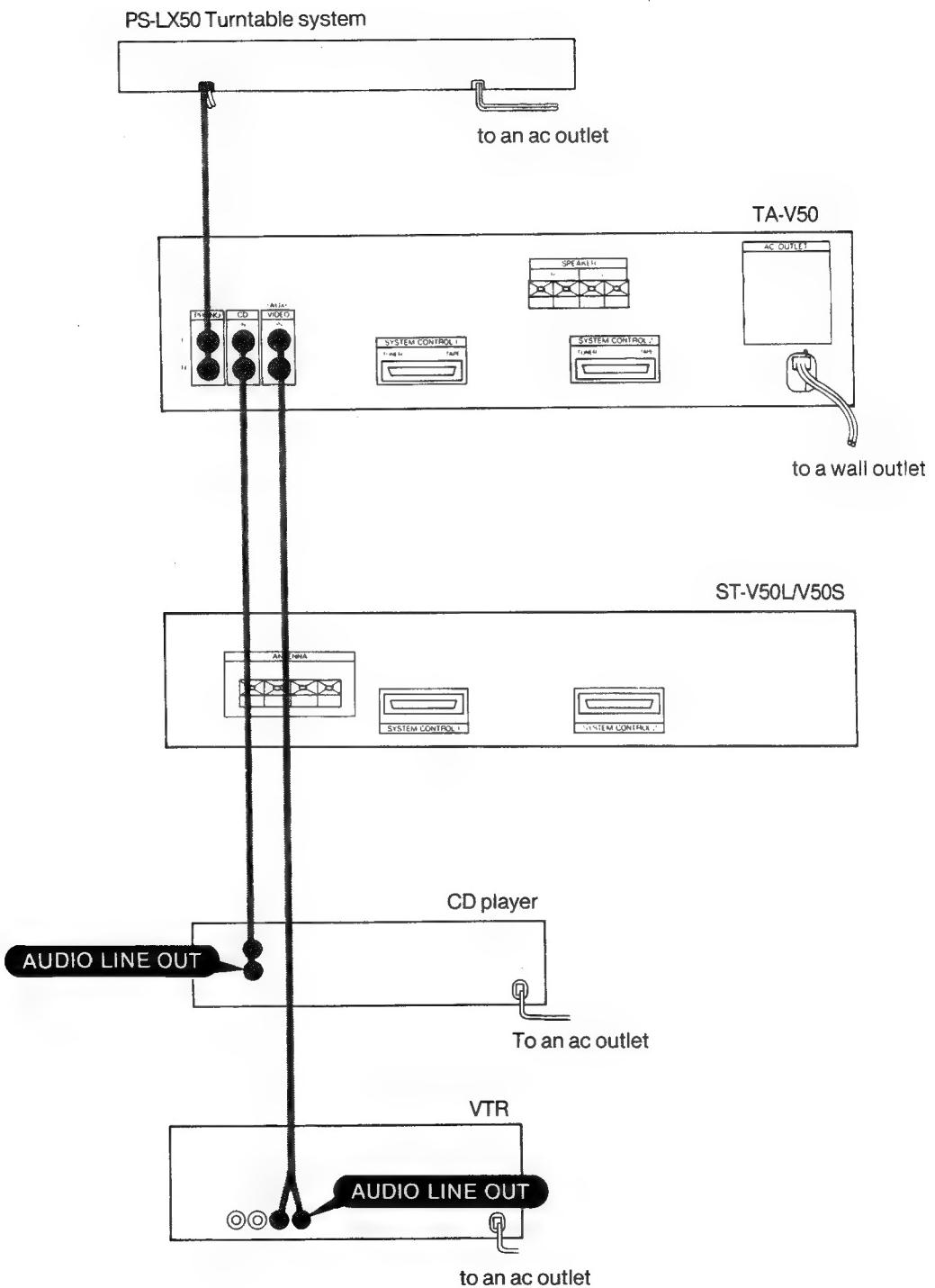
FM ANTENNA CONNECTION

Ribbon antenna supplied or 300-ohm twinlead connection
Fully extend the antenna and fasten the ends to a wall using thumbtacks or adhesive tape.
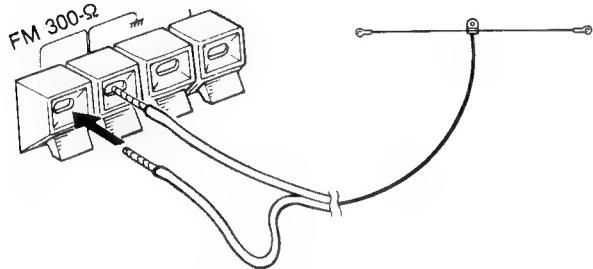
75-ohm coaxial cable connection
A 75-ohm coaxial cable is free from external interference, reduces noise pickup, and is the ideal transmission line for most FM installations.
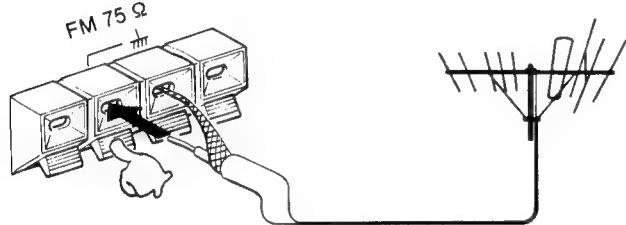
75-ohm coaxial cable connection (for the West Germany model) — using an IEC standard socket-connector
The 75-ohm coaxial receptacle to the left of the antenna terminals is an IEC standard pin-connector (male). If an IEC standard socket-connector (female) is available, attach the connector to the 75-ohm coaxial cable and insert it firmly into the 75 Ω COAXIAL ANTENNA receptacle.
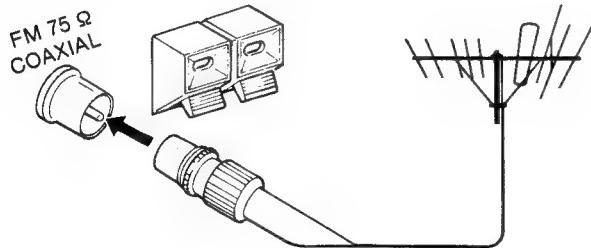

MW/LW/SW ANTENNA CONNECTION
(LW for Type 1 model and SW for Type 2 model)

Supplied layout-free AM antenna
Always keep the layout-free AM antenna connected to the MW/LW (or MW/SW) antenna terminals. MW/LW (or MW/SW) programs cannot be received without connecting the antenna. Connect the lead-in with the white mark to the ⏚ terminal.
Adjust the position of the antenna to obtain optimum reception.
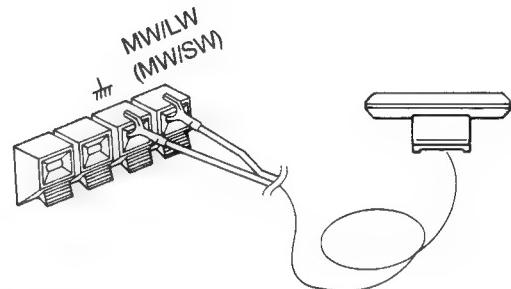
Outdoor antenna
If satisfactory reception is not obtained with the layoutfree AM antenna, connect 6 - 15 meter (20 - 50 feet) insulated wire to the MW/LW antenna terminal. When an outdoor antenna is connected, there is no need to disconnect the layout-free AM antenna.

ANTENNA GROUND CONNECTION

Hum and noises may be reduced by a grounding wire. Connect the vinyl cord to a ground (⏚) terminal. The other end of the cord should be bare longer than 50 cm and bury it underground either as it is or after having connected it to metal stick (copper). Another alternative is that it can be connected to a water pipe (lead).

> **Notes**
> • Be sure to ground against lightning when the external antenna is used.
> • Never connect wires to gas pipes as it is dangerous.

SPEAKER CONNECTION

The supplied speaker cords and the speaker terminals are coded with color, indicating the ⊕ ⊖ polarities: red for ⊕ connection and black for ⊖ connection. Remember the coding and prevent faulty connections.

MAINTENANCE

Cleaning after every 10 hours of operation. To make the best possible recordings, however, you should clean all surfaces over which the tape travels before every recording.

1 Press the ■ ▲ button to open the cassette holder.

2 Wipe the heads, the pinch roller and the capstan with a cleaning tip slightly moistened with tape cleaning fluid or rubbing alcohol.

Capstan

Record/playback head/Erase head (deck B)
Playback head (deck A)   Pinch roller
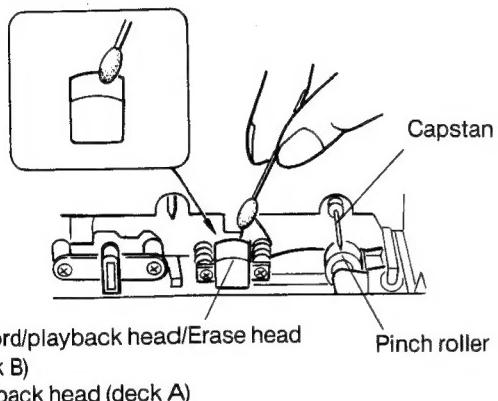
After cleaning the heads and tape path, do not insert a cassette until the areas cleaned are completely dry.

DEMAGNETIZING THE HEADS

After 20 to 30 hours of use, enough residual magnetism will have built up on the heads to begin to cause loss of high frequencies and hiss. At this time you should demagnetize the heads and all metal parts in the tape path with a commercially available head demagnetizer. Be sure that this system is turned off while you demagnetize.

CLEANING THE CABINET

Clean the cabinet, panel and controls with a soft cloth lightly moistened with a mild detergent solution. Do not use any type of abrasive pad, scouring powder or solvent such as alcohol or benzine.

SPECIFICATIONS

ST-V50L/V50S

System FM stereo, FM/AM superheterodyne tuner
Quartz-locked PLL digital synthesizer system

FM tuner section
Tuning range 87.5 – 108 MHz
Antenna terminals
75 ohms unbalanced
300 ohms balanced
Intermediate frequency
10.7 MHz

	ST-V50L (at 40 kHz deviation)	ST-V50S (at 75 kHz deviation)
Sensitivity	at 46 dB quieting 19.5 dBf, 5μV (2.5) (mono) 39.5 dBf, 50μ (25) V (stereo)	at 50 dB quieting 19.5 dBf, 5 μV (mono) 39.5 dBf, 50μV (stereo)
Usable sensitivity	11.5 dBf, 2μV (IHF)	11.5 dBf, 2 μV (IHF)
Signal-to-noise ratio	74 dB (mono) 69 dB (stereo)	80 dB (mono) 75 dB (stereo)
Harmonic distortion at 1 kHz	0.3% (mono) 0.5% (stereo)	0.3% (mono) 0.5% (stereo)
Separation at 1 kHz	40 dB	
Frequency response	40 Hz – 12.5 kHz ±0.5 dB 30 Hz – 15 kHz $^{+0.5}_{-2.0}$dB	40 Hz – 12.5 kHz ±0.5 dB 30 Hz – 15 kHz $^{+0.5}_{-2.0}$dB
Selectivity	at 300 kHz 50 (60) dB	at 400 kHz 55 dB
Image response ratio	50 dB (For the model of West Germany: 80 dB)	
IF response ratio	90 dB (For the model of West Germany: 93 dB)	

( ): West Germany model

MW/LW tuner section (for type 1)

		MW	LW
Tuning range		522 – 1,611 kHz	144 – 288 kHz
Antenna		Layout-free AM antenna, External antenna terminal	
Intermediate frequency		450 kHz	
Usable sensitivity	Layout-free AM antenna	400 μV/m (999 kHz)	700 μV/m (216 kHz)
Signal-to-noise ratio		54 dB (50 mV/m)	50 dB (50 mV/m)
Harmonic distortion		0.3% (50 mV/m, 400 Hz)	
Selectivity		35 dB (9 kHz)	

SW/MW tuner section (for type 2)

		SW 1	SW 2	MW
Tuning range		3.2 – 7.3 MHz	9.5 – 21.75 MHz	531 – 1,602 kHz (at 9 kHz step) 530 – 1,610 kHz (at 10 kHz step)
Antenna		Layout-free AM antenna, External antenna terminal		
Intermediate frequency		450 kHz		
Usable sensitivity	Layout-free AM antenna	500 μV/m (5 MHz)	500 μV/m (15 MHz)	400 μV/m (999 or 1,000 kHz)
Signal-to-noise ratio		50 dB (5 mV/m)		54 dB (50 mV/m)
Harmonic distortion		0.3% (5 mV/m, 400 Hz)		0.3% (50 mV/m, 400 Hz)
Selectivity		30 dB (9 kHz)		35 dB (9 kHz) 38 dB (10 kHz)

Dimensions Approx. 355 × 77 × 275 mm (w/h/d)
(14 × 3¹/₈ × 10⁷/₈ inches)
incl. projecting parts and controls
Weight Approx. 2.0 kg (4 lb 7 oz) net

TC-V50W

Recording system 4-track 2-channel stereo
Frequency response
DOLBY NR OFF (DIN)
With TYPE IV cassette (Sony METAL-ES)
30 – 15,000 Hz (±3 dB)
With TYPE II cassette (Sony UCX-S)
30 – 14,000 Hz (±3 dB)
With TYPE I cassette (Sony HF-S)
30 – 13,000 Hz (±3 dB)
Wow and flutter 0.12% WRMS (NAB)
0.18% WPeak (IEC)
Dimensions Approx. 355 × 120 × 280 mm (w/h/d)
(14 × 4³/₄ × 11¹/₈ inches)
incl. projecting parts and controls
Weight Approx. 3.5 kg (7 lb 12 oz) net

TA-V50

Continuous RMS power output
50 + 50 watts (type 1)
(6 ohms, at 1 kHz, 0.5% THD)
40 + 40 watts (type 2)
(6 ohms, 40 Hz – 20 kHz, 0.5% THD)

Music power output
160 W (6 ohms, 5% THD)

Peak music power output
320 W (6 ohms) (type 2)

Inputs	Sensitivity	Impedance
PHONO (phono jacks)	2 mV	50 kilohms
CD, VIDEO (AUDIO IN) (phono jacks)	150 mV	50 kilohms
MIC (phone jack)	2 mV	20 kilohms

Outputs

HEADPHONES (stereo phone jack)	Accepts headphones of 8 ohms or more
SPEAKER	Accepts speakers of 6 to 16 ohms

SYSTEM CONTROL 1 terminal (13-pin)

SYSTEM CONTROL 2 terminal (13-pin)

CENTER

TAPE   AC 20V   AC 19V   TUNER
        600 mA   400 mA
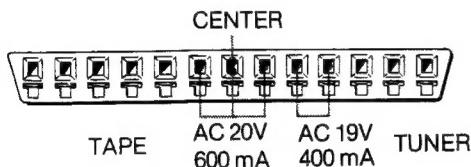
Frequency response
PHONO: RIAA curve ± 0.5 dB
CD, VIDEO (AUDIO IN):
15 Hz – 50 kHz $^{+0}_{-3}$ dB
MIC: 100 Hz – 10 kHz $^{+0}_{-6}$ dB

Dimensions   Approx. 355 × 98 × 290 mm (w/h/d)
(14 × 4^{1}/$_{8}$ × 9^{7}/$_{8}$ inches)
incl. projecting parts and controls

Weight   Approx. 5.8 kg (11 lb 15 oz) net

APM-510 (only for Type 2)

Speaker system   2 way speaker system
Speaker unit   Woofer: 210 cm^2, APM type
Tweeter: 5 cm (2 in.), cone type
Enclosure type   Bass reflex
Power handling capacity
Nominal 50 watts
Frequency range   50 Hz – 20 kHz
Sensitivity   89 dB/W/m
Impedance   6 ohm
Dimensions   Approx. 250 × 442 × 215 mm (w/h/d)
(9 ^{7}/$_{8}$ × 17 ^{3}/$_{8}$ × 8 ^{1}/$_{2}$ inches)
Weight   Approx. 5.5 kg (12 lb 4 oz) net per speaker

General

Power requirements
Type 1: 220 V ac, 50 Hz (240 V ac
adjustable by authorized Sony personnel)
Type 2: 120, 220 or 240 V ac adjustable,
50/60 Hz
Power consumption
110 watts
AC outlet   2 unswitched, total 100 watts max.
Accessories supplied
Flat cord with 13-pin connectors (2)
Layout-free AM antenna (1)
FM ribbon antenna (1)

While the information given is correct at the time of printing, small production changes in the course of our company's policy of improvement through research and design might not necessarily be indicated in the specifications. We would ask you to check with your appointed Sony dealer if clarification on any point is required.

Note
Appliance conforms with EEC Directive 76/889 regarding interference suppression.

TROUBLE CHECKS

The following checkpoints will assist in the correction of most problems which you may encounter with your set. Should any problem persist after you have made these checks, consult your nearest Sony service facility.

Before going through the check list below, first pay attention to the following fundamental points.
• The power cord must be connected firmly.
• The speaker connection must also be firm.
• The flat cords must be connected firmly.

RADIO PROGRAM RECEPTION

The TUNED indication flickers.	• Adjust the antenna.
The STEREO indicator flickers.	• Adjust the antenna.
Severe hum or noise	• The signal strength is too weak. Connect the external antenna. See page 16. • Adjust the antenna. • Connect the ground wire. • Separate the layout-free AM antenna from the power cord, speaker cords, FM antenna lead-in, etc.

CASSETTE DECK OPERATION

The ● REC button cannot be activated.	• No cassette in the cassette holder. • The tab is removed from the cassette. See page 10.
The ● REC button or ▶ button cannot be activated.	• The tape is wound completely.
Tape does not move even when the ▶ button is activated.	• The ‖ PAUSE button is activated.
Recording or playback cannot be made or there is a decrease in sound level.	• Dirty heads. • Magnetic built-up on the record/playback head.
Excessive wow or flutter, or sound drop-out	• Contamination of the capstan or pinch roller.
Insufficient erasure	• Magnetic built-up on the erase head.
Increase of noise or erasure of high frequencies	• Magnetic built-up on the erase head.
Unbalanced tone in higher frequencies	• Improper setting of the DOLBY NR switch.
Incorrect AMS operation	• Blank space between the selections may be too short.

GENERAL

No audio	• Adjust the volume with the VOLUME control.
No audio from one channel or unbalanced left and right volume.	• Adjust the BALANCE control. • Check the speaker connections of the inoperative channel.
Reversed left and right sound	• Check the speaker cord connection and speaker location.
Lack of bass sound or apparently imprecise physical location of musical instruments.	• Check the speaker connection for proper phasing.
The output level of the program source is low.	• Slide the MIXING control fully towards SOURCE when not mixing.
No microphone sound	• Slide the MIXING control to MIC and adjust the balance between the volume of the microphone and the program source.
Severe hum or noise	• The TV or VTR is too close to the stereo system. Separate the stereo system from the TV or VTR.
Incorrect tint of the TV or VTR picture.	• The speaker system is too close to the TV or color monitor. Separate the speaker system from the TV or monitor.